

## CLAIMS

1. An air conditioner comprising a fixed displacement-type first compression mechanism and a variable displacement-type second compression mechanism independent from each other in a refrigeration cycle, and further comprising second compression mechanism displacement control means for controlling a displacement of said second compression mechanism, compression mechanism operation switching control means for switching to an operation by said two compression mechanisms or a sole operation by any one compression mechanism, an evaporator for refrigerant for cooling air for air conditioning, a condenser for refrigerant, a blower for sending air to said evaporator, evaporator temperature detection means for detecting a temperature of said evaporator or a temperature of air at an exit of said evaporator (Teva), and evaporator target temperature calculation means for calculating a target temperature (Toff) of said evaporator temperature or said evaporator exit air temperature, wherein, when said refrigeration cycle is operated only by said first compression mechanism, a temperature (Teva) detected by said evaporator temperature detection means, a temperature (Toff) calculated by said evaporator target temperature calculation means and a predetermined value A are referred, and if a condition of  $Teva - Toff \geq A$  is satisfied, said first compression mechanism and said second compression mechanism are operated simultaneously.
2. The air conditioner according to claim 1, wherein, when said condition of  $Teva - Toff \geq A$  is satisfied and an additional condition is satisfied in which a period of time from a time at that said condition is satisfied to a time at that said first compression mechanism is coupled to its power source is a predetermined time B or more, said first compression mechanism and said second compression mechanism are operated simultaneously.
3. The air conditioner according to claim 2 further comprising room interior temperature

detection means for detecting a temperature in an objective room for air conditioning ( $T_{in}$ ) and room interior temperature setting means for setting a room interior target temperature ( $T_{set}$ ), wherein a temperature ( $T_{in}$ ) detected by said room interior temperature detection means, a temperature ( $T_{set}$ ) set by said room interior temperature setting means and a predetermined value  $C$  are referred, and when said condition of  $T_{eva}-T_{off} \geq A$  is satisfied, said additional condition is satisfied in which said period of time from a time at that said condition is satisfied to a time at that said first compression mechanism is coupled to its power source is said predetermined time  $B$  or more, and another additional condition of  $T_{in}-T_{set} \geq C$  is satisfied, said first compression mechanism and said second compression mechanism are operated simultaneously.

4. The air conditioner according to claim 2, wherein said  $T_{eva}$ , said  $T_{off}$  and a predetermined value  $D$  greater than said predetermined value  $A$  are referred, and if a condition of  $T_{eva}-T_{off} \geq D$  is satisfied, said first compression mechanism and said second compression mechanism are operated simultaneously, in spite of said additional condition.

5. The air conditioner according to claim 3, wherein said  $T_{eva}$ , said  $T_{off}$ , said  $T_{in}$ , said  $T_{set}$  and a predetermined value  $E$  greater than said predetermined value  $C$  are referred, and if a condition of  $T_{in}-T_{set} \geq E$  is satisfied, said first compression mechanism and said second compression mechanism are operated simultaneously, in spite of said additional conditions.

6. The air conditioner according to claim 1, wherein, when said refrigeration cycle is operated by said first and second compression mechanisms, said  $T_{eva}$ , said  $T_{off}$ , a predetermined value  $F$  and a predetermined time  $G$  are referred, and when a condition where a time having satisfied a condition of  $T_{eva}-T_{off} \geq F$  is  $G$  or more is satisfied, only said first compression mechanism is operated.

7. The air conditioner according to claim 6, wherein a temperature in an objective room for air conditioning ( $T_{in}$ ), a room interior target temperature ( $T_{set}$ ) and a predetermined value  $H$  are further referred, and when any one condition of said condition where a time having satisfied said condition of  $T_{eva}-T_{off} \geq F$  is  $G$  or more, a condition of  $T_{in}-T_{set} \geq H$ , and a condition where said displacement of said second compression mechanism is a predetermined value  $I$  or less, is satisfied, only said first compression mechanism is operated.

8. The air conditioner according to claim 7, wherein a predetermined time  $J$  is further referred, and when any one condition of said condition where a time having satisfied said condition of  $T_{eva}-T_{off} \geq F$  is  $G$  or more, a condition where a time having satisfied said condition of  $T_{in}-T_{set} \geq H$  is  $J$  or more, and said condition where said displacement of said second compression mechanism is said predetermined value  $I$  or less, is satisfied, only said first compression mechanism is operated.